

L 17/43-63

EPA(b)/EWT(1)/EDS

AFFTC/ASD

Pd-4

ACCESSION NR: AP3004121

S/0040/63/027/004/0739/0740

AUTHOR: Suchkov, V. A. (Chelyabinsk)

TITLE: Outflow into a vacuum when a wall is removed

SOURCE: Prikladnaya matematika i mekhanika, v. 27, no. 4, 1963, 739-740

TOPIC TAGS: automodel, fluid flow, double wave, vacuum

ABSTRACT: The author studies the solution of the problem in the title in the perturbed case. This is reduced to solving equations

$$(x^2 - c_1^2) c_{11} + 2c_1 c_{12} + (x^2 - c_1^2) c_{22} = (x/c) [(c_1^2 + c_2^2) (1-x) - 2x^2] \quad (1)$$

$$u_2 = 0, \quad c = 1 + xu_1, \quad -x^{-1} < u_1 < 0, \quad u_2 = u_1 \operatorname{tg} \alpha, \quad c_2 = c_1 \operatorname{tg} \alpha \quad (2)$$

where

$$c_i = \frac{\partial c}{\partial u_i}, \quad c_{ij} = \frac{\partial^2 c}{\partial u_i \partial u_j}, \quad (i, j = 1, 2)$$

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L 17743-53

ACCESSION NR: AP3004121

for the unknown function  $c$ . Here  $u_1, u_2$  are velocity components,  $c$  is the speed of sound,  $\xi_1 = x_1/t$  and  $\xi_2 = x_2/t$  are automodel variables related to the speed of sound in the resting gas  $c_0 = 1$ . He solves the problem in a straightforward manner using the method of characteristics. Orig. art. has: 2 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 25Mar63

DATE ACQ: 15Aug63

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 000

Card 2/2

VUKS, A.F.; LISHTVANSKIY, L.I.; SUSHKOV, V.A.

Scattering of light in solution and other phenomena due to departures  
from the ideal. Ukr. fiz. zhur. 9 no.5:526-531 Ky '64. (MIRA 17:9)

1. Leningradskiy gosudarstvennyy universitet.

SUCI 30V, V A.

Reversible rectifier unit with transformer excitation. Trade GPT 29  
no. 3-83-84 1-3. (MIRA 27 00)

SUCHKOV, V.A.

Two-dimensional potential flows with stationary flow lines.  
Dokl. AN SSSR 164 no.2:292-293 S '65. (MIRA 18:9)

1. Submitted February 20, 1965.

ACC NR: AT7004279

AUTHOR: Suchkov, V. A.

ORG: none

SOURCE CODE: UR/2517/65/074/000/0156/0167

TITLE: Double waves in plane potential flow of polytropic gas

SOURCE: AN SSSR. Matematicheskii institut. Trudy, v. 74, 1966. Raznostnyye metody resheniya zadach matematicheskoy fiziki (Difference methods for solving problems in mathematical physics), pt. 1, 156-167

TOPIC TAGS: wave propagation, potential flow, adiabatic flow, partial differential equation, gas dynamics

ABSTRACT: Analytic solutions of the two-dimensional potential flow equations for the propagation of plane double waves are investigated. The governing equations are given by the set

$$\frac{\partial u_1}{\partial t} + u_1 \frac{\partial u_1}{\partial x_1} + \frac{\partial \varphi}{\partial x_1} = 0,$$

$$\frac{\partial \varphi}{\partial t} + u_1 \frac{\partial \varphi}{\partial x_1} + \kappa(\varphi) \frac{\partial u_2}{\partial x_1} = 0,$$

where  $\varphi = \frac{c^2}{\gamma - 1}$ ,  $\kappa(\varphi) = (\gamma - 1)\varphi = c^2$  and  $\gamma > 1$  is the polytropic index. This leads to the set of equations for the double waves:

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and  
the

For  $0 < k < 1$ , the above equation is shown graphically in the physical as well as in the mathematical plane. The author expresses his gratitude to Professor N. N. Yanenko for his interest in his work, and to his junior colleague R. A. Zhurav for his help in the calculations. Orig. 58 equations and 5 figures.

APPROVED FOR RELEASE: 08/26/2000

Card 2/2

SUB CODE: 20/

SUBM DATE: 08/26/2000

CIA-RDP86-00513R001653720012-4

ORIG REF: 005/

OTH REF: 001

SUCHKOV, V.B.

Modification of temporary artificial anus in injury of the  
rectum. Vest.khir. 76 no.7:123-125 Ag '55. (MLRA 8:10)

1. Iz kafedry gosspital'noy khirurgii (zav.-prof. V.M.Bal')  
Astrekhanskogo meditsinskogo instituta.

(RECTUM, wounds and injuries

surg.,temporary colostomy)

(WOUNDS AND INJURIES

rectum, surg.,temporary colostomy)

(COLOSTOMY,

temporary in wds. of rectum)

SUCHKOV, V.B.

Resection of the intestine due to ileocecal invagination in a  
5-month-old child. Vest.khir.76 no.8:114-115 S '55 (MLRA 8:11)

1. Iz kafedry gosspital'noy khirurgii (zav.--prof.V.M.Bal')  
Astrakhanskogo meditsinskogo instituta, Astrakhan', naberezhnaya  
1 Maya, d.111, kv.1.

(INTUSSUSCEPTION, in inf. and child.

ileocecal in 5-month-old child, surg.)



SUCHKOV, V. B. Cand Med Sci -- (diss) "~~new~~ method of operating<sup>on</sup> a temporary  
unnatural anus (Experimental clinical study)." Ivanovo, 1959. 19 pp  
(Ivanovo State Med Inst), 300 copies (KL, 48-59, 117)

SUCHKOV, V.B.

Plastic operation on the rectum following preliminary disengagement. Nov.khir.arkh. no.4:97-98 J1-Ag '59. (MIRA 12:11)

1. Kafedra gospiatal'noy khirurgii (zav. - prof.V.M.Bal') Astrakhanakogo meditsinskogo instituta.  
(RECTUM--SURGERY)

KITAYEV, Boris Ivanovich; YAROSHENKO, Yuriy Gavrilovich; SUCHKOV,  
Valerian Danilovich; GRUZINOV, V.K., red.; LUCHKO, Yu.V., red.  
izd-va; ZEF, Ye.M., tekhn.red.

[Heat exchange in shaft furnaces] Teploobmen v shakhtnykh  
pechakh. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi  
i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1957. 279 p.  
(MIRA 11:1)

\ (Furnaces) (Heat--Transmission)

BUDRIN, D.V.; YAROSHENKO, Yu.G.; SUCHKOV, V.D.

Determining thermophysical properties in a wide range of  
temperatures. Izv.vys.ucheb.zav.; prib. 5 no.1:118-127 '62.  
(MIRA 15:2)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.  
Rekomendovana kafedroy metallurgicheskikh pechey Ural'skogo  
politekhnicheskogo instituta.

(Heat-conduction)

SUCHKOV, V.D.; MARKIN, V.P., otv. red.

[Thermophysical values; reference data for the design of metallurgical furnaces] Teplofizicheskie velichiny: Spravochnye dannye dlia proektirovaniia metallurgicheskikh pechei. Sverdlovsk, Ural'skii politekhn. in-t S.M.Kirova, 1963. 38 p. (MIRA 17:7)

EWT(1)/EWP(q)/EWT(m)/BDS--AFFTC/ASD--WH

L 11219-63

ACCESSION NR: AP3000024

8/0131/63/000/005/0199/0206

57

AUTHOR: Budrin, D. V.; Suchkov, V. D.; Yaroshenko, Yu. G.

56

TITLE: Rapid determination of thermal conductivity and heat diffusivity in refractory materials

SOURCE: Ogneupory, no. 5, 1963, 199-206

TOPIC TAGS: refractories, thermal conductivity, heat diffusivity, magnesite, fire clay, thermocouple

ABSTRACT: The authors propose a method of using limiting conditions of a third kind, more general than previously employed, in solving a differential Fourier equation as a means of determining thermal properties. The technique for determining measured values requires no observation of special conditions in setting up the tests, except the maintenance of uniformly symmetrical heating (and cooling) of samples in an environment of constant temperature. Cylinders of magnesite, fire clay, and foamy fire clay were used in the experiments, and measurements were made by means of Chromel-Alumel thermocouples with thermoelectrodes 0.2 mm in diameter, connected to an EPP-09 electronic potentiometer. Errors in measured temperatures did not exceed 2%. The method is simple and needs no special heating device. It can be used in any plant laboratory and permits determination of thermal properties

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L 11219-63

ACCESSION NR: AP3000024

through a wide range of temperatures. Orig. art. has: 6 figures, 3 tables, and 21 formulas.

ASSOCIATION: Ural'skiy politekhnicheskii institut im. S. M. Kirova (Ural Polytechnic Institute)

SUBMITTED: 00

DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: 00

NO REF SOV: 013

OTHER: 001

Card

*mcs/cs*  
2/2

SUCHKOV, V. G.

"Properties of Synthetic Tanning Materials, Obtained From Lignosulfonic Acid and Phenols, and Methods of Using Them for Tanning." Sub 12 Jun 51, Moscow Technological Inst of Light Industry imeni L. M. Kaganovich

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55



✓ 14630\* Synthetic Tanning Agent PS Statelichol (in alcohol)  
PS. (Russian.) V. G. Serikov. *Legkaya prom. khim.* no. 15,  
no. 8, Aug. 1955, p. 18-19.

Obtained by the condensation of technical polyphenols with  
formaldehyde, followed by treatment with a mixture of formal  
dehyde and sulfite. Table.

✓ 88\* Effect of Chromium Oxide on Properties of Sole Leather.  
Vlianiye oksida khromy na svoystva podoshvennoi kozhi. (Rus-  
sian.) A. I. Metelkin and V. G. Suchkov. *Legkaya promyshlen-*  
*nost*, v. 15, no. 9, Sept. 1955, p. 26-29.  
Chromium tanning; elasticity and toughness under load; strength  
and other properties of treated and untreated leather. Tables.  
7 ref.

CH

①

500 HRCV, V. G.  
USSR/Chemical Technology - Chemical Products and Their Application. Leather. Fur.  
Gelatin. Tanning Agents. Technical Proteins, I-29

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63784

Author: Suchkov, V. G.

Institution: None

Title: Tanning with Syntan PL

Original  
Periodical: Nauch.-issled. tr. Tsentr. n.-i. in-ta kozh.-obuv. prom-sti, 1955,  
No 24, 58-81

Abstract: Lignophenol syntan PL comprises in its composition a considerable amount of tanning substances of sulfite-cellulose extract, and can therefore be utilized for tanning not only of chrome treated intermediate products but also of nonchromated raw hides. It can be used in tanning as the sole tanning agent or in combination with vegetable tanning agents. Tanning with syntan PL of chrome-pretreated hides does not yield satisfactory results. The leather turns out to be of light weight, with a low tanning value and increased moisture capacity.

Card 1/2

METELKIN, A.I., kandidat tekhnicheskikh nauk; SUCHKOV, V.G., kandidat  
tekhnicheskikh nauk; ZURABYAN, K.M., inzhener.

Increasing the wear resistance of sole leather. Leg.prom. 16 no.9:  
20-23 S '56. (MIRA 9:11)

(Leather industry)

7

District LE20(3)

1948-1949 R. W. Ziegler, V. I. Fildes, V. G.

2 May

SUCHKOV, V.G., kandidat tekhnicheskikh nauk.

Influence of tanning materials on the wear resistance of sole  
leather. Leg.prom. 17 no.3:34-36 Mr '57. (MLRA 10:4)  
(Tanning materials) (Shoe industry)

MOTINA, T.I.; SUCHKOV, V.G.

Making leather hydrophobic by means of silicon organic compounds.  
Leg. prom. 17 no.12:18-22 D '57. (MIRA 11:1)  
(Leather research) (Waterproofing)

5201100-0000  
MOTINA, T.I.; SUCHKOV, V.G.

Producing chromium stearates and using them in the leather industry.  
Leg. prom. 18 no.2:26-28 F '58. (MIRA 11:2)  
(Chromium organic compounds) (Waterproofing)



DIKOVSKIY, I.I.; MOTINA, T.I.; ~~SUCHKOV, Y.G.~~

Using "chromolan" for imparting water-repellent properties to  
leather. Kozh.-obuv.prom. 2 no.9:22-25 S '60. (MIRA 13:10)  
(Leather)

DERBAREMDIKER, M.L.; ZURABYAN, K.M.; LAYEVSKAYA, G.I.; LITVINOV, M.R.;  
METELKIN, A.I.; SLUTSKIY, S.B.; SUCHKOV, V.G.

Production of Russian leather and of footwear manufactured with the  
hot vulcanization method. Kozh.-obuv.prom.3 no.3:17-20 Mr '61.  
(MIRA 14:6)

(Shoe manufacture)  
(Leather)

METELKIN, A.I., kand.tekhn.nauk; SUCHKOV, V.G., kand.tekhn.nauk;  
ZURABYAN, K.M., kand.tekhn.nauk; MARTINKOVSKAYA, Yu.S., tekhnik

New developments relating to the characteristics of fat-liquoring  
materials. Kozh.-obuv.prom. 3 no.8:27-30 Ag '61. (MIRA 14:10)  
(Leather) (Oils and fats)

MIKHAYLOV, A.N., doktor tekhn.nauk, prof.; SUCHKOV, V.G., kand.tekhn.nauk

Use of high temperature methods for speeding the tanning of stiff  
leather. Kozh.-obuv.prom. 3 no.12:14-17 D '61. (MIRA 15:1)  
(Tanning)

BABAKINA, V.G.; METELKIN, A.I.; SUCHKOV, V.G.; KURAYTIS, S.A.; GOLUBEVA, S.K.

Method of leather processing; Soviet Certificate of Investments  
No.143957. Kozh.-obuv.prom. 4 no.8:42 Ag '62. (MIRA 15:8)  
(Leather industry—Technological innovations)

METELKIN, A.I., kand.tekhn.nauk; SUCHKOV, V.G., kand.tekhn.nauk

Methods of eliminating the "resting" of semiprocessed  
products after chrome treatment and tanning. Kozh.-obuv.prom.  
4 no.9:35-36 S '62. (MIRA 15:9)  
(Leather--Testing)

KEDROV, L.V.; KACHKO, I.L.; KOZLOVA, Z.V.; RUBASHKINA, T.S.;  
SIMONOV, I.G.; LUPEKIN, L.A.; BORISOVA, N.V.; FETISOVA,  
N.A.; VAYSBERG, I.Ye.; SUCHKOV, V.G.; KHEENNIKOV, N.S.;  
FILATOV, M.F., red.; ZHIYLVSKAYA, L.G., red.

[Flexible footwear] Gibkaia obuv'. Moskva, 1962. 38 p.  
(MIRA 17:8)

1. Tsentral'nyy institut nauchno-tehnicheskoy informatsii  
legkoy promyshlennosti.

SUCHKOV, V.G. (Novozybkov)

Interesting case of color adaptation. Priroda 51  
no.11:117 N '62. (MIRA 15:11)  
(Color sense)



ARBUZOV, S.V.; VAYSBERG, I. Ye.; SUGHKOV, V.G.; Prinimali uchastiye:  
LYUKSENBERG, M.S., nauchnyy sotrudnik; SHNAYDER, I.S., nauchnyy  
sotrudnik; PESKIN, Ya.I., nauchnyy sotrudnik.

New standard methodology for the manufacture of leather for  
sole parts from hogskins. Nauch.-issl. trudy TSNIKP no.33:  
3-7 '63 (MIRA 18:1)

1. Tsentral'nyy nauchno-issledovatel'skiy institut kozhevenno-  
obuvnoy promyshlennosti (for Lyuksenburg, Shnayder, Peskin).

SUCHKOV, V.G., kand. tekhn. nauk

New method for leather tanning. Kozh. obuv. prom. 5 no.7:  
16-17 JI '63. (MIRA 16:8)

(Tanning)

VOLKOV, Vasil'y Aleksandrovich; FUREMOV, Ivan Zakharovich; KATIN,  
A.F., retsenzent; KUPTSOVA, L.D., retsenzent; SUCHKOV,  
V.G., retsenzent; RAZUMOVSKAYA, Ye.V., red.

[Technology of leather] Tekhnologiya kozhi. Moskva, Leg-  
kaia industriia, 1964. 429 p. (MIRA 18:2)

ZURABYAN, K.M., kand.tekhn.nauk; METETSKENE, N.I., inzh.; SAVEL'YEV, A.I.,  
kand.tekhn.nauk; SUCHKOV, V.G., kand.tekhn.nauk

Testing of the mechanical properties of leather under dynamic con-  
ditions. Kozh.-obuv.prom. 6 no.10:15-20 0 '64. (MIRA 18:1)

SUCHKOV, V.G.

Inorganic products indispensable in the manufacture of leather.  
Kozh.-obuv. prom. 6 no.12:22-24 D '64 (MIRA 18:2)

YERSHOV, Ye.M.; SUCHKOV, V.I.; SHUMOV, V.P.; FEDOROV, S.F.

Apparatus for amplitude and phase measurements in the inductive method.  
Geofiz.razved. no.4:48-64 '61. (MIRA 14:7)  
(Electromagnetic prospecting)

L 17160-65 EWT(1) ASD(a)-5/SSD/AFWL/AFETR/ESD(c)/ESD(gc)/ESD(t) GN/  
MLK  
ACCESSION NR: AT4047269 S/0000/64/000/000/0175/0182

AUTHOR: Yerashov, Ye. M.; Shumov, V.P.; Suchkov, V.I.

TITLE: Application of the induction method for solution of problems in geological mapping

SOURCE: Mezhdunarodskaya nauchnaya konferentsiya po induktivnyim metodam rudnoy geofiziki. Moscow, 1961. Trudy\*. Moscow, Izd-vo Nedra, 1964, 175-182

TOPIC TAGS: geological mapping, geological prospecting, induced electromagnetic field, terrestrial electromagnetic field, magnetic dipole

ABSTRACT: The possibility of application of the induction method with amplitude-phase measurements for the purposes of geological mapping is based on solution of the problem of the electromagnetic field of the magnetic dipole at the earth - air interface. The magnetic moment of the magnetic dipole is considered to be purely fictitious. The values of the electromagnetic field are computed in relation to the parameter

$$p_1 = |kr| = \frac{2\pi}{c} \sqrt{2If},$$

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L 17160-65

ACCESSION NR: AT4047269

$$P_i = 2.81 \sqrt{\frac{I}{r}},$$

The electromagnetic field of an inclined magnetic dipole is a linear combination of the fields of the horizontal and vertical dipoles. It therefore is sufficient to solve the problem for each of them separately. Solutions are available for the problems of the fields of horizontal and vertical magnetic dipoles over a horizontally layered structure for a distant zone, i.e.  $|kr| \gg 1$ , and for the induced zone, i.e.  $|kr| < 1$ . No solutions have been available for the transitional zone where the parameter ranges from 1 to 9. In geophysical investigations by the induction method in which ultrasonic frequencies are used (120-80 kc/s), it is most common to deal with parameters of 1.5-7. The authors therefore modeled the fields of horizontal and vertical dipoles over a two-layer structure with horizontal discontinuities. The model experiments are described. In field investigations by the induction method the apparatus used makes it possible to measure both the phase and amplitude of the different magnetic field components. The apparatus consists of a generator and a receiving apparatus. The low-frequency generator has a loop antenna at the output. The resistivities of rocks are determined easily from the phase differences of the components of the inclined dipole. The receiver is a superheterodyne receiver with one heterodyne for two channels, both of which are completely identical. There are phase inverters in each channel and

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L 17160-65

ACCESSION NR: AT4047269

installed in the second stage of a band-pass amplifier. The receiver is tuned to three fixed frequencies 40, 40 and 80 kc/s. Phase is measured at the intermediate frequency of 40 kc/s which makes it possible to simplify the phase inverter circuit. The instrument is compact and portable, it can be used on the scale of the indicator-type instrument. The antennas were loops at the inputs of both channels. This apparatus was used in developing the method of geological mapping in Karelia and the Transbaykal region (Yershov, Ye. M., Suchkov, V. I., and Shumov, V. P., Geofiz. razvedka, 1961, No. 4). Certain results of field investigations are reported in the paper reviewed. Orig. art. has: 6 formulas and 6 figures.

ASSOCIATION: Kompleksnaya tematicheskaya geofizicheskaya ekspeditsiya tresta Geofiznefteuglerazvedka (Complex Scientific Geophysical Expedition of the Geophysical Trust for Petroleum and Coal Prospecting)

SUBMITTED: 27Feb64

ENCL: 00

SUB CODE: ES, EM

NO REF SOV: 004

OTHER: 000

Card 3/3

KLYACHKO, B.I., kand.tekhn.nauk; SUCHKOV, V.I., inzh.

Corrosion of low temperature heating surfaces when sulfurous  
fuels are burned. Elek.sta. 31 no.2:7-10 P '60.

(MIRA 13:5)

(Boilers--Corrosion) (Fuel--Analysis)

YERSHOV, Ye.M.; SUCHKOV, V.I.; SHUMOV, V.P.

Experimental studies of the electromagnetic fields of magnetic  
dipoles over mediums with horizontal and vertical interfaces.

Geofiz.razv. no.13:102-122 '63.

(MIRA 17:4)

KROL', B.I., inzh.; SUCHKOV, V.L., inzh.

Compound starting device for the IaAZ-204 and IaAZ-206 engines.  
Stroi. truboprov. 7 no.12:25-26 D '62. (MIRA 16:1)

1. Filial spetsial'nogo konstruktorskogo byuro "Gazstroy Mashina",  
Leningrad.

(Diesel engines—Cold weather operation)

L 23027-65 EWT(1)/EPA(s)-2/EWT(m)/EPP(n)-2/EPR/L-2/EWP(t)/EPA(bb)-2/EWP(b)  
Eg: b(1)=1 / s=1 / m=1 / n=1 / t=1 / bb=1

S/0054/64/000/011/0056/0059

ACCESSION NR: AP404956B

AUTHORS: Berte, L. A.; Kisel'gof, Yu. S.; Suchkov, V. N.

TITLE: Experimental induction pump feeder for lead alloys

10. 11. 1964, 56-59

induction pump, lead alloy, alkali metal pump pressure regulator

[illegible]

Card 1/97

L 23127-65

ACCESSION NR: AP4049568

Enclosures) was established for the pumping of the liquid alloy of lead-potassium<sup>27</sup> which was maintained at a temperature of 200-250°C. The operating conditions were as follows: 84 hours of continuous operation were maintained; winding temperatures 70-140°C; cooling water flow was 400-450 liters/hour, inlet and outlet temperatures 12-16°C; cooling air flow was 20-30 m³/hour. The 220-V power consumption was 1.5-2.5 kw (not including the power consumption of the control system and an increase in reliability, the device was used as a unit for transporting and measuring lead-antimony metal alloys. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 03

SUB CODE: IE, MM

NR REF SOV: 001

OTHER: 000

Card 2/5

SUCHKOV, V.N.

Heat relations in the process of the production of chlorine and  
caustic soda by means of diaphragm electrolysis. Khim. prom. 40  
no.8:597-605 Ag '64. (MIRA 18:4)

L 42141-66 ENT(m)/T/ESP(t)/EII

IJPLCJ

25/10/1965

ACC NR: AT6022484

(N)

SOURCE CODE: UR/0000/65/000/000/0338/0341

AUTHOR: Zaretskiy, S. A.; Suchkov, V. N.; Busse-Machukas, V. B.; Kisel'gof, Yu. S.; Yakimenko, L. M.; Alabyshev, A. F.

none

TITLE: On the preparation of chlorine, caustic soda, and alkali metals by electrolysis of fused media with a liquid lead cathode

SOURCE: Vsesoyuznoye soveshchaniye po fizicheskoy khimii rasplavlennyykh soley. 2d, Kiev, 1963. Fizicheskaya khimiya rasplavlennyykh soley (Physical chemistry of fused salts); trudy soveshchaniya. Moscow, Izd-vo Metallurgiya, 1965, 338-341

TOPIC TAGS: electrolysis, alkali metal, lead, liquid metal, chlorine, sodium hydroxide, CATHODE

ABSTRACT: In recent years, a new method of producing alkali metals has been in use in the Soviet Union: the metals are distilled out of a lead-alkali alloy prepared by electrolysis on a liquid lead cathode. However, the process is characterized by a recurring decrease of current efficiencies, particularly at high cathodic current densities. The article reviews studies made for the purpose of improving this method. It is shown that the electrolysis of alkali metal chlorides in molten salts with a circulating liquid lead cathode and distillation of the metal has many advantages over the electrolysis of aqueous solutions, namely: (a) pure sodium metal can be obtained at high current efficiencies, and pure caustic soda is thus produced without the necessity of using expensive mercury; (b) it is no longer necessary to build evaporation units and

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14-141-22

ACC NR: AT6022484

units for melting caustic soda; (c) the process is carried out at current densities that are 30-35 times higher than in diaphragm electrolysis, and 6-7 times higher than in mercury electrolysis. Orig. art. has: 5 figures.

SUB CODE: 07/ SUBM DATE: 23Aug65/ ORIG REF: 007

Card 2/210/11

SUCHKOV, V. V. Cand Med Sci -- (diss) "On the Mechanism of  
the 'Distortion' of Leukocytic Reactions." Mos, 1957. 16 pp 20 cm.  
(First Mos Order of Lenin Medical Inst in I. M. Sechenov),  
200 copies (KL, 18-57, 98)

- 62 -

USSR/Human and Animal Physiology. Nervous System.  
Higher Nervous System. Behavior.

T

Abs Jour: Ref Zhur-Biol., No 20, 1958, 93655.

Author : Suchkov, V.V.

Inst :

Title : The Role of Internal Inhibition in Distortion of  
Leukocyte Reactions.

Orig Pub: Patol. fiziologiya i eksperim. terapiya, 1957, 1,  
No 1, 55-61.

Abstract: In 3 dogs the effect of non-conditioned stimulation  
(a burn of 1 cm<sup>2</sup> of skin of the thigh) was combined  
with conditioned reflex prior to it (for 12 sec).  
The maximal non-conditioned reflex leukocytosis arose  
60 minutes after the burn and was accompanied by neu-  
trophilia with a moderate nuclear shift in the neutro-

Card : 1/2

USSR/Human and Animal Physiology. Nervous System.  
Higher Nervous System. Behavior.

Abs Jour: Ref Zhur-Biol., No 20, 1958, 93655.

phils and by a relative lymphopenia. The magnitude  
and quality of the conditioned reflex reaction did  
not differ from the conditioned. After firm estab-  
lishment of extinction inhibition a study was made  
of the effect of the burn in relation to the inhibi-  
tion stimulus. Retarded and reduced leukocytic re-  
actions were observed and absence or distortion in  
changes of the leukocyte formula. The effect of ex-  
tinction inhibition passed away and inverted the  
native non-conditioned reaction. -- K.S.Ratner.

Card : 2/2

SUCHKOV, V.V. (Moskva)

The role of internal inhibition in the perversion of leukocyte reactions [with summary in English]. Pat.fiziol. i eksp.terap.  
1 no.1:55-61 Ja-F '58. (MIRA 12:1)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. S.M. Pavlenko) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(LEUKOCYTES, physiol.

variations of leukocyte response to burn inflicted  
with conditioned stimulus in dogs)

(REFLEX, CONDITIONED

same)

(BURNS, exper.

same)

SUCHKOV, V.V. (Moskva)

Role of external inhibition in distortion of the leukocyte reaction.  
Pat.fiziol. i eksp. terap. 2 no.4:49-50 JI-Ag '58 (MIRA 11:12)

1. Iz kafedry patofiziologii (zav. - prof. S.M. Pavlenko) Moskovskogo  
ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(LEUKOCYTE COUNT

eff. of external inhib. in dogs (Rus))

(REFLEX, CONDITIONED

eff. of external inhib. on leukocyte count in dogs  
(Rus))

SUCHKOV, V.V.; ZHUKOV, B.N.

Device for the continuous registration of the volumetric circulation rate and of the degree of oxyhemoglobin in acute experiments. Biul. eksp. biol. i med. 50 no. 11:130-133 N '60. (MIRA 13:12)

1. Iz kafedry patofiziologii i laboratorii po izucheniyu reaktivnosti organizma (zav. - prof. S.M. Pavlenko) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.  
(BLOOD CIRCULATION) (HEMOGLOBIN)

SUCHKOV, V.V.

Interaction between the leukocyte and motor reactions and respiration  
in the elaboration, extinction, and sudden inhibition of the defense  
reflex. Fiziol.zhur. 47 no.2:196-204 F '61. (MIRA 14:5)

1. From the Laboratory for the Organism Reactivity Studies,  
Sechenov 1st Medical Institute, Moscow.  
(CONDITIONED RESPONSE) (LEUKOCYTES)  
(RESPIRATION)

SUCHKOV, V.V.; FILIMONOV, V.G.

Multichannel photoelectric rheograph. Fiziol. zhur. 47 no.11:  
1434-1439 N '61. (MIRA 14:11)

1. From the Laboratory for Physiology of Abnormal Bodily Reactivity,  
I.M.Setchenov Medical Institute, Moscow.  
(BLOOD--CIRCULATION) (LABORATORIES--APPARATUS AND SUPPLIES)



LUSHNIKOV, Ye.F.; SUCHKOV, V.V.

Some morphological problems in the early stages of experimental myocardial infarction in atherosclerosis. Biul. eksp. biol. i med. 53 no.1:117-121 Ja '62. (MIRA 15:3)

1. Iz laboratorii obshchey patologicheskoy anatomii (zav. - chlen-korrespondent AMN SSSR prof. A.T. Strukov) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR i laboratorii po izucheniyu reaktivnosti organizma (zav. - prof. S.M. Favlenko) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova (dir. - chlen-korrespondent AMN SSSR prof. V.V. Kovanov). Predstavlena deystvitel'nyy chlenom AMN SSSR V.V. Parinyu.

(HEART—INFARCTION)  
(ARTERIOSCLEROSIS)

SUCHKOV, V.V. (Moskva)

Nonspecific role of internal inhibition in the change of  
leucocyte reactions to different stimuli. Pat. fiziol. i  
eksp. terap. 7 no.2:54-57 Mr-Ap'63. (MIRA 16:10)

1. Iz laboratorii po izucheniyu reaktivnosti organizma pri ka-  
fedre patologicheskoy fiziologii I Moskovskogo ordena Lenina  
meditsinskogo instituta imeni I.M.Sechenova (nauchnyy ruko-  
voditel' - prof. S.M.Pavlenko)  
(LEUCOCYTES) (BURNS AND SCALDS)  
(INHIBITION)

SHCHERBA, V.I.,

Appliance for the determination of the circulation rate. Fiziol.  
zhur. 50 no.5:631-636 My '64. (MIRA 18:2)

1. laboratoriya po peresadke organov i tkaney AMN SSSR, Moskva.

IJUSHNIKOV, Ye.F.; SUCHKOV, V.V.; SAVONICHEVA, G.A. (Moskva)

Morphological and metabolic changes in the heart of hypersensitized rabbits. Arkh. pat. 26 no.3:16-21 '64.

(MIRA 18:12)

1. Kafedra patologicheskoy anatomii (zav. - chlen-korrespondent AMN SSSR prof. A.I.Strukov) i patologicheskoy fiziologii (zav. - prof. S.M.Pavlenko) i Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova i laboratoriya po peresadke organov i tkaney (zav. - chlen korrespondent AMN SSSR prof. V.V. Kovanov) AMN SSSR.

SUCHKOV, V.V.

Some characteristics of the functional study of the peripheral blood circulation. Trudy 1-go MMI 42:49-58 '65.

Theoretical principles of the methods of application and types of electrodes for experimental rheovasographic studies. Ibid.: 59-63 (MIPA 19:2)

1. Laboratoriya po peresadke organov i tkaney AMN SSSR.

SUCHKOV, V.V.; MISSTONZENIK, E.Yu.

Characteristics of the functional state of blood circulation  
in a replanted extremity. Trudy 1-go MMI 42:64-74 '65.

(MIRA 19:2)

1. Laboratoriya po peresadke organov i tkaney AMN SSSR.

SUCHKOV, V.V.; IAPIN, S.K.; SHIVAYEV, V.V.; KOSHELEVA, L.V.; ZHAMNOV, Yu.Ya.

Expediency of using metal conductor prostheses for nerve trunks.  
Trudy 1-go MMI 42:119-128 '65. (MIRA 19:2)

1. Laboratoriya po peresadke organov i tkaney AMN SSSR i kafedra  
patologicheskoy anatomii 1-go Moskovskogo ordena Lenina meditsinskogo  
instituta imeni Sechenova.

flow, the flowmeter is made in the form of a U-shaped tube and is connected in series with the main line of flow (see Fig. 1 on the Enclosure). Photoelectric detectors are placed in the arms of the U-shaped tube. These control electromagnetic valves built into the arms of the U-shaped tube for measuring the direc-

NO REF SOV: 000  
Corr 1/2

OTHER: 000



44162

S/181/62/004/010/062/063  
B102/B104

24,700

AUTHORS: Veselovskiy, P. F., and Suchkov, Yu. D.

TITLE: General case of resonator method of determining the dielectric constant

PERIODICAL: Fizika tverdogo tela, v. 4, no. 10, 1962, 2989-2992

TEXT: The theoretical bases are stated for a method of determining  $\epsilon$  in a cylindrical resonator that contains  $n$  sections filled with substances of different  $\epsilon$  (Fig. 1). For simplicity, energy dispersion is ignored and  $\mu=1$  over the whole volume. The mathematical solution of the problem is reduced to a considering the harmonic oscillations of the type  $H_{pqr}$  of the generalized resonator when the field components are

$$E_r=0, \quad E_{\theta,z}=-\frac{v}{c}Z\nabla S,$$

$$H_r=x^2ZS, \quad H_{\theta,z}=\frac{dZ}{dz}\nabla S,$$

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General case of resonator method of ...

S/181/62/004/010/062/063

B102/B104

$S=S(x_2, x_3)$  and  $Z=z(z) = A \sin(\alpha z + \varphi)$ .  $sz=u(z, x_2, x_3)$  is the solution of the wave equation  $\Delta u + k^2 u = 0$  where  $k^2 = (\omega/c)^2 \epsilon = \chi^2 + \alpha^2$ . The boundary-value problem, together with the continuity condition, yields a system of equations of the form

$$\frac{\tan(\alpha_1 a_1)}{\alpha_1} = \frac{\tan(\alpha_2 a_1 + \varphi_2)}{\alpha_2}, \dots, \dots, \dots = \frac{\tan(\alpha_n a_n)}{\alpha_n}$$

with the non-trivial solution

$$\begin{aligned} \sum_{i=1}^n B_i - \sum_{i=2}^{n-1} \alpha_i^2 B_i \left( \sum_{j=1}^{i-1} B_j \right) \left( \sum_{k=i+1}^n B_k \right) + \sum_{i=1}^{n-1} \alpha_i^2 \alpha_i^2 B_i B_n \left( \sum_{j=1}^{i-1} B_j \right) \left( \sum_{k=i+1}^{n-1} B_k \right) \times \\ \times \left( \sum_{l=k+1}^n B_l \right) - \sum_{i=2}^{n-1} \alpha_i^2 \alpha_i^2 B_i B_1 B_i \left( \sum_{j=1}^{i-1} B_j \right) \left( \sum_{k=i+1}^{n-1} B_k \right) \left( \sum_{l=k+1}^n B_l \right) \times \\ \times \left( \sum_{m=l+1}^n B_m \right) + \dots = 0. \end{aligned} \quad (2)$$

Card 2/4

$$B_i = \frac{\tan(\alpha_i a_i)}{\alpha_i}$$

General case of resonator method of...

S/181/62/004/010/062/063  
B102/B104

This relation is the resonance condition for the magnetic oscillations and yields the parameters  $\alpha_1$  for determining  $\epsilon_1 = (c/\omega)^2(\alpha_1^2 + \kappa^2)$ .

$a = \sum_{i=1}^n a_i$  is the length and  $\omega_0$  is the resonance frequency of the resonator when  $\epsilon_1 = \dots = \epsilon_n = 1$ . In this case  $\kappa^2 = (\omega_0/c)^2 - (r\pi/a)^2$ ; (3). For a dielectric of thickness  $a_2$  upon a dielectric base of thickness  $a_3$ ,

$$\alpha_2^2 = \frac{1}{B_1 a_2} \left[ 1 + (B_1 + a_2) \frac{1 - \alpha_3^2 B_3 B_4}{B_3 + B_4} \right]; \text{ if } \alpha_2^2 \text{ is put into Eq. (3) the}$$

dielectric constant  $\epsilon_2$  of the film can be determined. There are 2 figures.

ASSOCIATION: Leningradskiy politekhnicheskii institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

Card 3/4

VESELOVSKIY, P.F.; SUCHKOV, Yu.D.

Use of the resonance loop method in determining  $\tan \delta$  in dielectrics.  
Fiz. tver tela 5 no.9:2728-2730 S '63. (MIRA 16:10)

1. Leningradskiy politekhnicheskii institut im. M.I.Kalinina.

SHCHKOV, YU. I., BASOVA, N. N., CHEKNIKOVA, T. M., LOPATKIN, O. N.

"Characteristics of the "Dagestan 273" virus strain isolated from a sand rat." p. 57

Desyatoye Soveshchaniye po parazitologicheskim problemam i prirodoopichayevym boleznyam. 22-29 Okt'yabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Focus 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1 254pp.

LEVI, M.I.; BASOVA, N.N.; SUCHKOV, Yu.G.

Characteristics of the complement fixation reaction in various infections. Vop.virus. 4 no.4:456-464 JI-Ag '59. (MIRA 12:12)

1. Nauchno-issledovatel'skiy protivochumnyy institut Kavkaza i Zakavkaz'ya Stavropol' oblastnoy.  
(COMPLEMENT)  
(INFECTION, blood)

LEVI, M.I.; BASOVA, N.N.; ZUS'MAN, R.T.; CHERNIKOVA, T.M.; SUCHKOV, Yu.G.;  
HUDNEV, M.M.

Incidence of influenza in Stavropol during the 1957 pandemic. Vop.virus.  
4 no.5:573-580 S-O '59. (MIRA 13:2)

1. Nauchno-issledovatel'skiy protivochumnyy institut Kavkaza i Zakav-  
kaz'ya, Stavropol'.  
(INFLUENZA, statist.)

BASOVA, N.N.; CHERNIKOVA, T.M.; SUCHKOV, Yu.G.; LOPATKIN, O.N.

Study of the properties of a virus isolated from a woodcock  
(Grocethia alba Pall.). Vop.virus. 5 no.3:286-292 My-Je '60.  
(MIRA 13:9)

1. Nauchno-issledovatel'skiy protivochumnyy institut Kavkaza i  
Zakavkaz'ya, Stavropol'.

(VIRUSES)



BASOVA, N.N.; CHERNIKOVA, T.M.; SUCHKOV, Yu.G.; RUDNEV, M.M.

Q fever and ornithosis in wild birds. Vop.virus. 6 no.5:586-591  
S-O '60. (MIRA 14:7)

1. Virusologicheskii otdel Nauchno-issledovatel'skogo protivochumnogo  
instituta Kavkaza i Zakavkaz'ya, Stavropol'.  
(Q FEVER) (ORNITHOSIS)

BASOVA, N.N.; SUCHKOV, Yu.G.; GUSEV, V.M.; RUDNEV, M.M.

Ornithosis in wild and domestic fowl. Zhur.mikrobiol.epid.i immun.  
31 no.9:3-7 S '60. (MIRA 13:11)

1. Iz Nauchno-issledovatel'skogo protivochumnogo instituta  
Kavkaza i Zakavkaz'ya.  
(ORNITHOSIS)

LEVI, M.I.; BASOVA, N.N.; SUCHKOV, Yu.G.; ORLOVA, G.M.; GERASYUK, L.G.  
MOMOT, A.G.

Reaction of passive hemagglutination and reaction of antibody  
neutralization in some infections. Zhur. mikrobiol. epid. i  
immun. 33 no.10:40-45 0'62 (MIRA 17:4)

1. Iz Rostovskogo-na-Donu nauchno-issledovatel'skogo protivochumnogo instituta.

SUCHKOV, Yu.G.

Use of formalized chicken erythrocytes for reactions of passive hemagglutination and the neutralization of antibodies in plague.  
Lab.delo 9 no.3:51-53 Mr '63. (MIRA 16:4)

1. Gosudarstvennyy nauchno-issledovatel'skiy protivochumnyy institut, Rostov-na-Donu.  
(BLOOD--AGGLUTINATION) (ANTIGENS AND ANTIBODIES) (PLAGUE)

LEVI, M.I.; SAGAROVSKAYA, L.A.; SUCHKOV, Yu.G.; MOMOT, A.G.

Serological study in plague. Report No.8: Sensitivity and specificity of the antibody neutralization reaction in plague and tularemia. Zhur. mikrobiol. epid. i immun. 40 no.5:65-68 My '63. (MIRA 17:6)

1. Iz Rostovskogo-na-Donu nauchno-issledovatel'skogo protivochumnogo instituta.

LEVI, M.I.; SUNCHKOV, Yu.G.; ORIOVA, G.M.; GERASYUK, L.G.; SHKODA, A.M.;  
PEYSANZHS, L.A.; STOGOVA, A.N.; IOPATINA, N.F.; SUKHARNIKOVA, N.A.;  
PAK, G.Yu.; MUMINOV, K.M.; DONSKAYA, T.N.; KASSONOV, L.S.; VEYNBLAT,  
V.I.; MURTAZANOVA, E.Sh.; SHTEL'MAN, A.I.; LAVRENT'YEV, A.F.;  
BASOVA, N.N.; GOLKOVSKIY, G.M.; KULOV, G.I.; SAIAMOV, N.I.;  
ZALYGINA, N.I.

Results of the testing of the reactions of passive hemagglutination  
and neutralization of antibodies in the epizootologic examination of  
wild rodents for plague. Zhur. mikrobiol., epid. i immun. 40 no.12:  
118-119 D '63. (MIRA 17:12)

1. Iz Rostovskogo i Sredne Aziatskogo protivochumnykh institutov,  
Chimkentskoy, Taldy-Kurganskoy, Aralomorskoy, Turkmenskoy, Astrakhanskoy  
i Frunzenskoy protivochumnykh stantsiy.

ACCESSION NR: AP4009030

382 sera from *Rhombomys opimus*, while the pathogen could be isolated from only 3 cases. The antibody neutralization reaction was also carried out in this area. The results show that both tests are usable under field conditions, and that wild rodents containing antibodies to plague are much more common than rodents from which the live pathogen can be isolated. The passive hemagglutination reaction can be used to judge the severity and duration of a plague epizootic, while the antibody neutralization reaction is suitable for the examination of dead animals and is much more convenient, for purposes of rapid diagnosis, than isolation of the pathogen. "Physicians G. V. Kuzina, N. Ya Yeremetskiy, N. A. Yeremetskaya, O. S. Misaleva, T. N. Donskaya, G. I. Vashchenok, S. S. Dankov, E. Sh. Murtazanova, R. I. Ni and A. M. Shkoda took part in these studies. The age of the rodents was determined by zoologists S. N. Martin, V. S. Lobachev and V. S. Vashchenok." Orig. art. has: 3 tables.

ASSOCIATION: Rostovskiy-na-Donu nauchno-issledovatel'skiy protivochumnyy institut (Scientific Research Institute Against Plague, Rostov-on-Don)

SUBMITTED: 13Jan62

DATE ACQ: 03Feb64

ENCL: 00

SUB CODE: AM, BC  
Card 2/2

NO REF SOV: 010

OTHER: 003

LEVI, N.I.; SUSHKOV, Yu.G.; ORLOVA, G.M.; GERASYUK, L.G.; SHKOLA, A.M.;  
PESKARIS, L.A.; STUGOVA, A.N.; IOMOTINA, N.F.; SUEHARNIKOVA, N.A.;  
PAK, G.Y.; MUHICOV, K.M.; DONSKAYA, T.N.; MASSONOV, L.C.; WEINBLAT,  
V.I.; MURTAZANOVA, E.S.; STEINMAN, A.I.; LAVALNTEV, A.F.; BASIN,  
M.N.; KULOV, G.I.; GOLKOVSKY, G.M.; SALAMANOV, N.I.; ZALYGINA, N.I.

Significance of serological methods in the epizootological study  
of plague in wild rodents. J. hyg. epidem. (Prague) 8 no.4:422-427  
'64.

1. Institute of Scientific Research, Rostov on the Don and Central  
Asian Institute of Scientific Research, U.S.S.R.



[illegible]

1. *Journal of Normalized Cryptanalysis with Issues of Public-Key Cryptography*. *Math. Mikrobiol. epid. i imm. 4, no. 2:63-72* Apr '85.

(1964-1965)

1. The following information was obtained from the above sources:

JUCHKOV, Yuliy, 1911-1974, (1911-1974) N.D. YUZHAKIN, K.V.;  
OSRASYUK, I.I.

Primary lead in the work on the development of  
precipitation and condensation of water vapor in the atmosphere. 42  
no. 10. 1964-1974. (MIRA 18:11)

1. Rostovsky, and the other authors of the "prakticheskyy  
institute" Subr. 1. 1974.

L 8790-66 EWT(m)/EWP(w)/ETC(m) WW/EM

ACC NR: AP5028028

SOURCE CODE: UR/0119/65/000/011/0008/0010

AUTHOR: Pliskin, Yu. S. (Candidate of technical sciences); Suchkov, Yu. S.  
(Engineer) 11 B

ORC: none

TITLE: Measuring the average forces by string-type and vibration-frequency  
sensors in the presence of vibrations qk

SOURCE: Priborostroyeniye, no. 11, 1965, 8-10

TOPIC TAGS: mechanical force, force measurement qw

ABSTRACT: The problem of measuring the average force upon which vibrations  
are superposed is considered; the force is measured by the number of pulses per  
unit time counted by an output instrument. Two types of errors — a dynamic cut-  
off error and a dynamic nonlinearity error — are recognized. The cutoff error

Card 1/2

UDC: 620.178.53:621.3.088.24  
Z

L 8790-66

ACC NR: AP5028028

is:  $\Delta y(T)/y_0$ , where  $\Delta y(T)$  is the averaged vibration over the time  $T$ ,  $y_0$  is the measurand. The nonlinearity error is:  $\frac{1}{4} \frac{\overline{\Delta y(t)^2}}{y_0(1+y_0)}$ . It is found that, when a static load is measured under vibration conditions: (1) The cutoff error decreases with increasing the time of measurement; it becomes less than  $0.008 \Delta y_m/y_0$  when  $\omega T = 31.5$ ; here,  $\Delta y_m$  is the amplitude of sinusoidal vibrations,  $\omega$  is the angular frequency; (2) With short-time measurements, the cutoff error can be considerably reduced by recording the process shape or by using a vibration-period method; (3) The nonlinearity error is systematic; a formula is offered for its evaluation. Orig. art. has: 5 figures, 25 formulas, and 3 tables.

SUB CODE: 13/ SUBM DATE: 00

Card 2/2

SUCHKOVA, A.A.

USSR/Chemistry - Petroleum

1 Jul 52

"Hydrocarbons of the Decalin Series in Dossorsk Petroleum," S. S. Nifontova, R. Ya. Sushchik, A. A. Suchkova

"Dokl Ak Nauk SSSR" Vol LXXXV, No 1, pp 115-116

Both Zelinskiy's catalytic dehydrogenation method and the picrate method were used in the investigation of kerosene from Dossorsk petroleum. Ten-deg fractions were sep'd and analyzed. Presented by Acad A. V. Topchiyev 3 May 52.

224T17

"APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653720012-4"

USSR/Chemical Technology. Chemical Products and Their I-14  
Application--Treatment of natural gases and  
petroleum. Motor fuels. Lubricants.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 9274

Author : Topchiev, A. V., Nifontova, S. S., Suchkova, A. A.,  
and Sushchik, R. Ya.

Inst : Petroleum Institute of The Academy of Sciences USSR

Title : Decalin and Its Homologs in Some Soviet Crudes

Orig Pub: Tr. In-ta nefti AN SSSR, 1956, Vol 8, 21-29

Abstract: Kerosenes from Dossor, Ekhabin, Nobit-Dag, and Romashkin crudes were subjected to fractional distillation followed by dearomatization by treatment with 98% H<sub>2</sub>SO<sub>4</sub> or adsorption on silica gel. The dearomatized fractions were subjected to exhaustive dehydrogenation over a Pt-Fe catalyst. The aromatic hydrocarbons produced during hydrogenation and distillation are extracted with picric acid from the catalyzate or from the aromatics desorbed from

Card 1/2

USSR/Chemical Technology. Chemical Products and Their I-14  
Application--Treatment of natural gases and  
petroleum. Motor fuels. Lubricants.

**"APPROVED FOR RELEASE: 08/26/2000**

**CIA-RDP86-00513R001653720012-4**

**APPROVED FOR RELEASE: 08/26/2000**

**CIA-RDP86-00513R001653720012-4"**

*TOPCHIEV A.A.*  
TOPCHIEV, A.V.; KUSAKOV, M.M.; NIFONTOVA, S.S.; SUCHKOVA, A.A.; SHISHKINA,  
M.V.

Investigating condensed aromatic hydrocarbons from the kerosene  
fraction of Romashkino oil. Khim. i tekhn. topl. i masel no.9:1-7  
S. '57. (MIRA 10:11)

1. Institut nefti AN SSSR. (Hydrocarbons--Analysis)  
(Chkalov Province--Petroleum)

SUCHKOVA, A. A.

31975  
S/081/61/000/023/046/061  
B138/B101

110130  
AUTHORS: Topchiyev, A. V., Nifontova, S. S., Kusayev, I. A., Sanin,  
P. I., Suchkova, A. A., Sushchik, P. Ya., Chekalova, N. N.  
TITLE: Separation of aromatic hydrocarbons from the medium (kerosene)  
fractions of petroleum  
PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1961, 447 - 448,  
abstract 23264 (Tr. In-ta nefti. AN SSSR, v. 14, 1960, 12-57)

TEXT: Research work has produced a method for dividing petroleum into  
distillate fractions and separating the narrow aromatic hydrocarbons  
from the broad aromatic fraction 175 - 300°C of Romashki petroleum by  
chromatographic fractionation over silica gel ACM(ASM). They are  
divided into structural types and a partial study has been made of the  
monocyclic aromatics. The possibility of quantitative fractionation by  
chromatography over home-produced  $Al_2O_3$  is demonstrated for the case of  
artificial mixtures of mono- and bicyclic aromatics. When aromatics are  
separated from the naphthene-paraffin part over silica gel, they need not  
be separated in the form of narrow fractions according to  $n^{20}_D$ . However,  
Card 1/2



Separation of aromatic hydrocarbons...

31975  
3/081/61/000/023/046/061  
B138/B101

they can quite well be separated as one whole aromatic fraction which can then, over  $Al_2O_3$ , be divided into mono-, and bicyclic, or higher, molecular aromatic hydrocarbons. The overall hydrocarbon composition of the Romashki 175 - 300° C fraction has been found (in %): monocyclic aromatics 13.11; bicyclic aromatics 3.01; aromatics of mixed structure 0.7; hexamethylene hydrocarbons 6.4; pentamethylene hydrocarbons 11.5; normal paraffinous hydrocarbons 17.5; isoparaffinous 41.2 and organosulfur compounds 6.58 separated by oxidation. [Abstracter's note: Complete translation.] ✓

Card 2/2

TOPIC TAGS: petroleum, paraffin wax, chromatographic analysis, hydrocarbon

**"APPROVED FOR RELEASE: 08/26/2000**

**CIA-RDP86-00513R001653720012-4**

**APPROVED FOR RELEASE: 08/26/2000**

**CIA-RDP86-00513R001653720012-4"**

*Suchkova, A.D.*

137-58-5-9457

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 92 (USSR)

AUTHORS: Petrov, D.A., Kekua, M.G., Khvostikova, V.D., Shashkov, Yu.M., Suchkova, A.D.

TITLE: Producing Single Crystals of Silicon (O poluchenii mono-kristallov kremniya)

PERIODICAL: V sb.: Vopr. metallurgii i fiz. poluprovodnikov. Moscow, AN SSSR, 1957, pp 41-46

ABSTRACT: The production of single crystals of Si by drawing from a melt and vertical floating-zone refining is described. Drawing was performed in an apparatus consisting of 3 parts: a vacuum circulation chamber connected with an evacuation system and equipped with electrical leads and mechanism for raising and rotating the crucible; a working chamber consisting of a metal water-cooled cylinder with viewing window; and heads with a mechanism for raising and rotating the seed crystal. The fusion of the Si in a quartz crucible mounted on a graphite base was done by a slit heater made of spectrally pure graphite, with graphite screens around it. Smelting was in vacuum ( $10^{-4}$ - $10^{-5}$  mm Hg). Si produced by the Beketov method was employed in

Card 1/2

137-58-5-9457

### Producing Single Crystals of Silicon

the drawing. After the Si was fused, a thermal regime that assured crystallization of the melt from its center was chosen. The seed was immersed in the melt, and drawing began after it was fused. Single crystals were obtained after the material had been drawn 1, 2, or 3 times. It is noted that the presence of a film on the melt and poor contact between the seed crystal and the melt may cause the crystal drawn to be a polycrystalline. Vertical floating-zone refining was performed in an apparatus consisting of a vacuum chamber in which a Si bar, produced by drawing, was mounted vertically. A Ta heater, creating a zone of fusion within the specimen, moved along the specimen at a rate of  $\approx 2$  mm/min. It was found that a given degree of superheating of the zone was a condition for the production of a single crystal by this method. In a polycrystalline specimen a monocrystalline portion was produced only after several passes, while this was accomplished on the first pass when a monocrystalline seed crystal was employed. Single crystals of Si with resistivities of 15-60 ohm/cm were produced on these apparatus.

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- 1 Single crystals--Growth    2. Single crystals--Resistivity    3. Sil. A--Applications

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SOV/180-59-1-3/29

AUTHORS: Belokurova, I.N., Kekua, M.G., Petrov, D.A. and  
Suchkova, A.D. (Moscow)

TITLE: Production of Single Crystals of Alloys of Germanium with  
Silicon (O poluchenii monokristallov splavov germaniya s  
kremniyem)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye tekhnicheskikh  
nauk, Metallurgiya i toplivo, 1959, Nr 1, pp 9-12, + 1  
plate, (USSR)

ABSTRACT: The production of single crystals of solid solutions of  
germanium with silicon is important in the semiconductor  
field since they can combine the advantages of both  
elements. The authors describe their experiments with  
two methods of production. In the first, similar to that  
of Davis (Ref 4), a melt of the required composition was  
produced in an evacuated quartz ampoule in a silit  
furnace. The melt was held at 20-25°C above the liquidus  
temperature for four hours and then cooled at 1.5°C per  
hour. Single crystals with 0.5 - 5 at. % Si were  
obtained but it was found (Table 1) that they were  
heterogeneous in composition, having a gradient of  
silicon content and conductivity. The Laue patterns

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Production of Single Crystals of Alloys of Germanium with Silicon

(Fig 4) indicate that growth occurs with a  $[100]$  orientation. The second method is based on drawing a crystal with continuous feed of melt as described by D.A. Petrov and V.S. Zemskov (Ref 6). For this a special apparatus was developed shown open in Fig 2 and in operation in Fig 1. A quartz crucible is heated by a graphite heater and a vacuum of  $10^{-4}$  mm Hg is maintained while a crystal is drawn, a polycrystalline ingot of the same composition being added to the crucible at the same rate. Temperature is controlled manually and is chosen to give a single-crystal diameter equal to that of the feed ingot, the rate of feed and drawing then being the same and equal to 1.7 mm/min. Both crucible and crystal are rotated. Specimens were obtained (Table 2) with 0.70, 0.75, 1.0 and 2.0 at. % Si with homogeneous composition and electrical properties. Fig 8 shows resistivities as functions of length along specimens for several specimens. Specimens with  $[111]$  orientated

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Production of Single Crystals of Alloys of Germanium with Silicon  
growth axes are shown in Fig 5, while Figs 6 and 7 show  
Laue patterns from the seeding crystal and the single  
crystal, respectively.

Card 3/3 There are 8 figures, 2 tables and 6 references, 3 of  
which are English, 2 Soviet and 1 German.

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AUTHORS: Zhurkin, B.G., Zemskov, V.S., Petrov, D.A. and  
Suchkova, A.D. (Moscow) <sup>1</sup> <sup>1</sup> <sup>1</sup>

TITLE: The Nature of the Quasi-Binary Germanium-Indium-Antimony  
System

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh  
nauk, Metallurgiya i toplivo, 1959, Nr 4, pp 156-158 (USSR)

ABSTRACT: Germanium with electron-type conduction and a specific resistance 25 to 30 ohm/cm was used together with zone refined antimony and indium. Crystals were pulled from the melt. Results are given in Table 1. All the samples had electron-type conductivity and samples with high InSb content had a higher concentration of electrons than those with low InSb content. The number of current carriers varied from  $1.2 \times 10^{18}$  to  $1.9 \times 10^{19}/\text{cm}^3$ . The value for fully compensated additions is  $2.5 \times 10^{13}/\text{cm}^3$ . Thus there was an excess of Sb atoms. Experiments were carried out using the same Ge:Sb ratio and increasing the In content. Results are given in Table 2. With a ratio of In:Sb of 2.5 there is still electronic conduction very near to the compensated alloy. With In:Sb = 4.4 there is hole-type conduction. Microstructures were examined along the

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The Nature of the Quasi-Binary Germanium-Indium-Antimony System

length of the crystal pulled from a melt. A second phase appears (see Fig) which from microhardness tests corresponds to InSb. It does not appear, however, at temperatures greater than 650°C - the temperature of dissociation of InSb. The authors conclude that because of dissociation of InSb in fused germanium, the system does not possess the properties of a quasi-binary system. There are 1 figure, 2 tables and 8 references, 6 of which are Soviet and 2 English.

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AUTHORS: Zhurkin, B.G., Zemskov, V.S., Petrov, D.A., and Suchkova, A.D. (Moscow)

TITLE: The Solubility of Indium and Antimony in Germanium and their Effect on some Electrical Properties of Germanium

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye Tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 5, pp 86-90 (USSR)

ABSTRACT: Single crystals of germanium were pulled from melts doped with up to 80 wt % of indium or of antimony. [111] seeds were used; growth rate was 0.04 mm/min and the crystal was rotated at 140 rpm. Starting materials were: high purity germanium (25-30 ohm.cm N-type, mobility 3600 cm<sup>2</sup>/V.sec, diffusion length ~ 1.5-2 mm); indium showing spectrographic traces of Fe, Al, Cu, Ca, Ni and antimony of Cu, As, Pb, Au, Al and P. A pure graphite crucible fitted with a quartz sheathed thermocouple (Fig 1) held a charge of 10-12 g. The pulled ingots were 7-9 mm diameter and 8-10 mm long. These were cut in half lengthways. One half was studied metallographically for homogeneity while Hall effect specimens (7 x 3 x 1 mm) were cut from the other, close to the seed and perpendicular to the growth axis. Resistivity and Hall

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SOV/180-59-5-13/37

The Solubility of Indium and Antimony in Germanium and their  
Effect on some Electrical Properties of Germanium

of resistivity vs impurity concentration for Sb (1) and  
In (2) doping.  $2.5 \times 10^{-19} \text{ Sb/cm}^3$  gave  $\sim 6 \cdot 10^{-4}$   
ohm.cm, and  $2 \cdot 10^{-19} \text{ In/cm}^3$  gave  $2 \cdot 10^{-3}$  ohm.cm.  
Fig 6 shows the corresponding variations in Hall  
mobility; the plots for both holes and electrons  
varying similarly. The results presented for In are  
in good agreement with those in Ref 3.  
There are 6 figures, 1 table and 14 references, of which  
3 are Soviet, 10 English and 1 German.

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SUBMITTED: April 3, 1959

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